



# ***STIC Search Report***

***EIC 1700***

**STIC Database Tracking Number: 137097**

**TO: Janis Dote  
Location: Rem 9C75  
Art Unit : 1756  
November 10, 2004**

**Case Serial Number: 10/667410**

**From: Kathleen Fuller  
Location: EIC 1700  
REMSEN 4B28  
Phone: 571/272-2505  
Kathleen.Fuller@uspto.gov**

## **Search Notes**

Access DB# 137097**SEARCH REQUEST FORM**

Scientific and Technical Information Center

Requester's Full Name: JANIS DOTE Examiner #: 68271 Date: 11/4/04  
Art Unit: 1756 Phone Number 30571-272-1382 Serial Number: 10/667,410  
Mail Box and Bldg/Room Location: REN 9C75 Results Format Preferred (circle) PAPER DISK E-MAIL

**If more than one search is submitted, please prioritize searches in order of need.**

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Electrophoretic photoconductor method, apparatus  
apparatus process cartridge and automatic surface layer coating  
Inventors (please provide full names): \_\_\_\_\_

TAKAAKI IEGAMI, TOMOYUKI SHIMADA, YASUO SUZUKI, NOZOMU TAMOTO,  
HIDETOSHI KAMI  
Earliest Priority Filing Date: 9/24/02

*\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Search coating solution in claims 19 and 20,  
especially search compounds of general  
formula 1 and 2. See attached claims

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PAT. &amp; T.M. OFFICE

\*\*\*\*\*

**STAFF USE ONLY**

	Type of Search	Vendors and cost where applicable
Searcher: <u>K. Fuller</u>	NA Sequence (#) _____	STN <u>✓</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) <u>1</u>	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr.Link _____
Date Completed: <u>11/10/04</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>30</u>	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: <u>30</u>	Other _____	Other (specify) _____

=> file reg

FILE 'REGISTRY' ENTERED AT 14:37:42 ON 10 NOV 2004  
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Property values tagged with IC are from the ZIC/VINITI data file  
provided by InfoChem.

STRUCTURE FILE UPDATES: 8 NOV 2004 HIGHEST RN 777024-10-9  
DICTIONARY FILE UPDATES: 8 NOV 2004 HIGHEST RN 777024-10-9

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

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conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more  
information enter HELP PROP at an arrow prompt in the file or refer  
to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> file hcaplus

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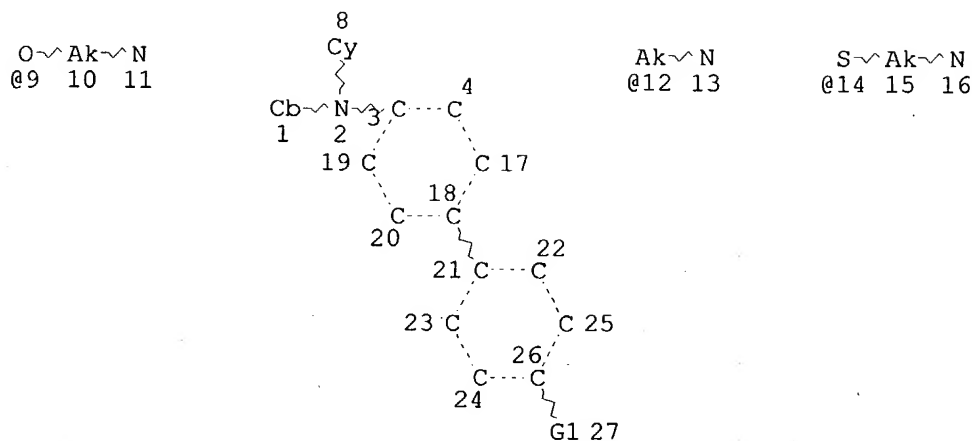
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FILE COVERS 1907 - 10 Nov 2004 VOL 141 ISS 20  
FILE LAST UPDATED: 9 Nov 2004 (20041109/ED)

This file contains CAS Registry Numbers for easy and accurate  
substance identification.

=> d que

L12 STR



VAR G1=9/12/14  
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 NSPEC IS RC AT 11  
 NSPEC IS RC AT 13  
 NSPEC IS RC AT 16  
 DEFAULT MLEVEL IS ATOM  
 GGCAT IS UNS AT 1  
 GGCAT IS UNS AT 8  
 DEFAULT ECLEVEL IS LIMITED

*30 structures from  
this query*

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 24

STEREO ATTRIBUTES: NONE  
 L14 30 SEA FILE=REGISTRY SSS FUL L12  
 L16 16 SEA FILE=HCAPLUS ABB=ON L14  
 L17 1 SEA FILE=HCAPLUS ABB=ON L16(L) COATING?  
 L19 14 SEA FILE=HCAPLUS ABB=ON L16 AND ELECTROPHOTOGRAPH?  
 L20 14 SEA FILE=HCAPLUS ABB=ON L17 OR L19  
 L21 6 SEA FILE=HCAPLUS ABB=ON L16 AND COATING?  
 L22 14 SEA FILE=HCAPLUS ABB=ON L20 OR L21

*14 CA references with utility*

=> d 122 1-14 bib abs ind hitstr

L22 ANSWER 1 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2004:842679 HCAPLUS  
 TI Image-forming apparatus containing triarylmethane compound photoreceptor surface layer  
 IN Suzuki, Yasuo; Tamoto, Nozomu; Kami, Hidetoshi; Ikegami, Takaaki; Shimada, Tomoyuki; Yasutomi, Hiroshi  
 PA Ricoh Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 67 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI JP 2004287371 A2 20041014 JP 2003-143923 20030521  
 PRAI JP 2003-19366 A 20030128

AB Disclosed is the image-forming apparatus comprising a photoreceptor, a charging device, and a scanning device for forming an electrostatic latent image in the photoreceptor, wherein (a) the scanning device uses a laser beam having the beam diameter  $\leq 35 \mu\text{m}$ , (b) the photoreceptor has on an elec. conductive support a charge-generating layer, a charge-transporting layer, and a surface layer containing a triarylmethane compound having alkylamino, and (c) a sum of the film thicknesses of the charge-transporting layer and the surface layer on the support is  $\leq 20 \mu\text{m}$ . Further, the surface layer contains a carboxylic acid compound

IC ICM G03G005-147

ICS G03G005-04; G03G015-04; G03G015-043

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST **electrophotog** app photoreceptor surface layer triarylmethane compd

IT **Electrophotographic** apparatus

**Electrophotographic** photoconductors (photoreceptors)

(**electrophotog.** photoreceptors containing triarylmethane compound in surface layer)

IT 114037-67-1 501367-64-2 501367-65-3 501367-77-7 **676448-98-9**  
 770730-00-2 770730-08-0 775347-48-3 775347-49-4 775347-50-7  
 775347-51-8 775347-52-9 775347-53-0 775347-54-1 **775347-55-2**  
 775347-56-3 775347-57-4 775347-58-5 775347-59-6 775347-60-9

RL: DEV (Device component use); USES (Uses)

(**electrophotog.** photoreceptors containing triarylmethane compound in surface layer)

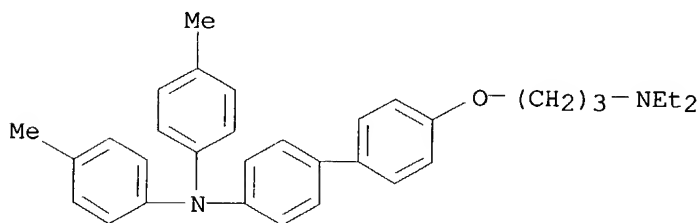
IT **676448-98-9 775347-55-2**

RL: DEV (Device component use); USES (Uses)

(**electrophotog.** photoreceptors containing triarylmethane compound in surface layer)

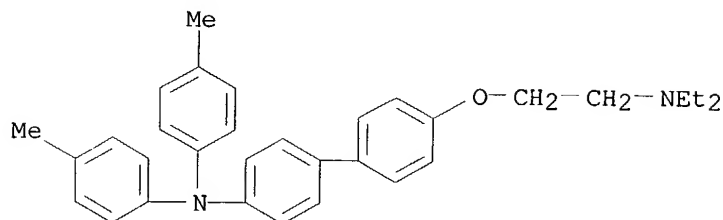
RN 676448-98-9 HCAPLUS

CN [1,1'-Biphenyl]-4-amine, 4'-[3-(diethylamino)propoxy]-N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



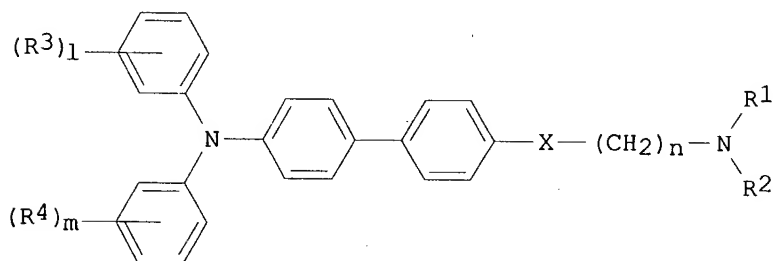
RN 775347-55-2 HCAPLUS

CN [1,1'-Biphenyl]-4-amine, 4'-[2-(diethylamino)ethoxy]-N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



L22 ANSWER 2 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2004:271543 HCAPLUS  
 DN 140:294740  
 TI Aminobiphenyls for **electrophotographic** photoconductors  
 IN Shimada, Tomoyuki; Ikegami, Takaaki; Suzuki, Yasuo; Tamoto, Nozomu; Kami, Hidetoshi  
 PA Ricoh Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 16 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004099561	A2	20040402	JP 2002-265967	20020911
PRAI	JP 2002-265967		20020911		
OS	MARPAT 140:294740				
GI					



I

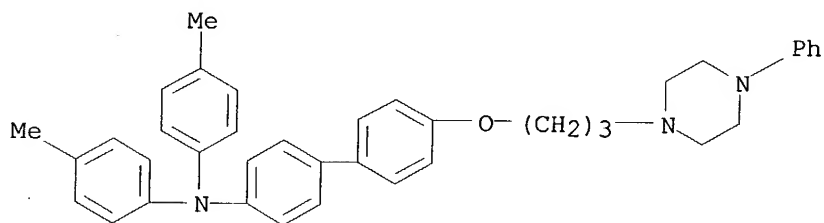
AB The aminobiphenyls are I (R1, R2 = alkyl, aromatic hydrocarbyl; R1 and R2 may form N-containing heterocyclic ring; R3, R4 = C1-4 alkyl, alkoxy, halo; X = direct bond, O, S; l, m = 0-3; n = 2-4). **Electrophotog.** photoconductors containing I as charge-transporting agents produce high-resolution images and good durability.

IC ICM C07C211-54  
 ICS C07C217-80; C07C323-37; C07D209-86; C07D241-04; C07D295-08;  
 G03G005-06

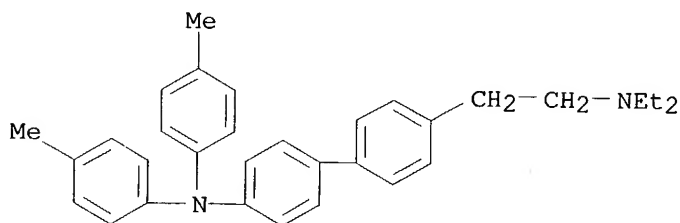
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 25

ST aminobiphenyl charge transporter **electrophotog** photoconductor;

- methylphenyl phenylpiperazylethoxybiphenyl charge transporter  
**electrophotog** photoconductor
- IT **Electrophotographic** photoconductors (photoreceptors)  
 (aminobiphenyls as charge-transporting agents for **electrophotog**  
 . photoconductors)
- IT **676125-29-4P 676125-30-7P**  
 RL: DEV (Device component use); IMF (Industrial manufacture); PREP  
 (Preparation); USES (Uses)  
 (aminobiphenyls as charge-transporting agents for **electrophotog**  
 . photoconductors)
- IT 92-54-6, 1-Phenylpiperazine 109-89-7, Diethylamine, reactions  
 167162-32-5 676125-31-8  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (aminobiphenyls as charge-transporting agents for **electrophotog**  
 . photoconductors)
- IT **676125-29-4P 676125-30-7P**  
 RL: DEV (Device component use); IMF (Industrial manufacture); PREP  
 (Preparation); USES (Uses)  
 (aminobiphenyls as charge-transporting agents for **electrophotog**  
 . photoconductors)
- RN 676125-29-4 HCAPLUS
- CN [1,1'-Biphenyl]-4-amine, N,N-bis(4-methylphenyl)-4'-[3-(4-phenyl-1-  
 piperazinyl)propoxy]- (9CI) (CA INDEX NAME)



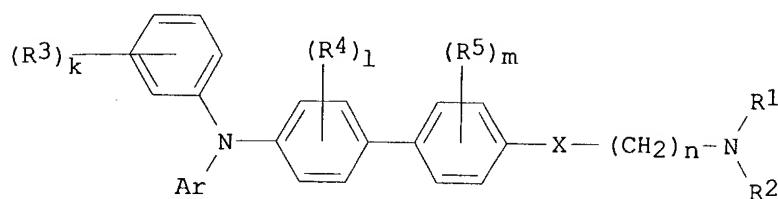
- RN 676125-30-7 HCAPLUS
- CN [1,1'-Biphenyl]-4-ethanamine, 4'-[bis(4-methylphenyl)amino]-N,N-diethyl-  
 (9CI) (CA INDEX NAME)



- L22 ANSWER 3 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
- AN 2004:268733 HCAPLUS
- DN 140:311895
- TI **Electrophotographic** photoreceptors containing specific tertiary  
 amine in light-sensitive layer for process cartridge of  
**electrophotographic** image -forming apparatus and method for image  
 formation using the same
- IN Shimada, Tomoyuki; Ikegami, Takaaki; Suzuki, Yasuo; Tamoto, Nozomu; Kami,

Hidetoshi  
 PA Ricoh Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 50 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004102080	A2	20040402	JP 2002-266005	20020911
PRAI	JP 2002-266005		20020911		
OS	MARPAT 140:311895				
GI					



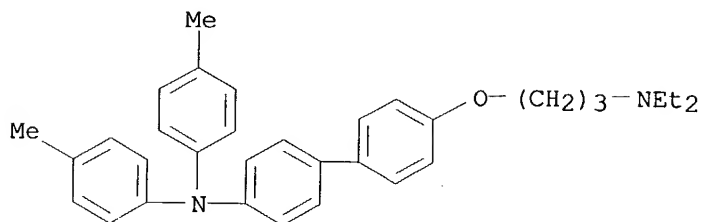
I

- AB The title **electrophotog.** photoreceptor has a light-sensitive layer on a support, wherein the light-sensitive layer contains tertiary amine I (R1-2 = alkyl, aromatic hydrocarbon ring; R3-5 = alkyl, alkoxy, halo; X = O, S; n = integer 2-4; k, l, m = integer 0-3). The photoreceptor shows the good durability and long service-life and provides high image quality.
- IC ICM G03G005-06  
 ICS G03G005-07; G03G021-00
- CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST **electrophotog** photoreceptor process cartridge image app
- IT **Electrophotographic** apparatus  
**Electrophotographic** photoconductors (photoreceptors)  
**Electrophotography**  
 (electrophotog. photoreceptors for process cartridge of **electrophotog.** image -forming apparatus and method for image formation using the same)
- IT 676448-98-9 676448-99-0 676449-00-6  
 676449-01-7 676449-02-8 676449-03-9  
 676551-91-0 676551-92-1 676551-93-2  
 676551-94-3 676551-95-4
- RL: TEM (Technical or engineered material use); USES (Uses)  
 (tertiary amine in light-sensitive layer of **electrophotog.** photoreceptor)
- IT 676448-98-9 676448-99-0 676449-00-6  
 676449-01-7 676449-02-8 676449-03-9  
 676551-91-0 676551-92-1 676551-93-2  
 676551-94-3 676551-95-4
- RL: TEM (Technical or engineered material use); USES (Uses)  
 (tertiary amine in light-sensitive layer of **electrophotog.** photoreceptor)



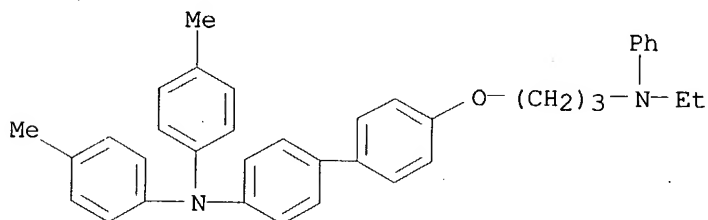
RN 676448-98-9 HCAPLUS

CN [1,1'-Biphenyl]-4-amine, 4'-[3-(diethylamino)propoxy]-N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



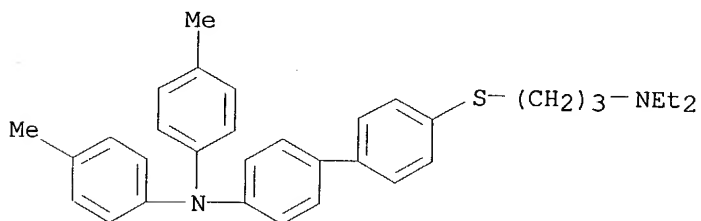
RN 676448-99-0 HCAPLUS

CN [1,1'-Biphenyl]-4-amine, 4'-[3-(ethylphenylamino)propoxy]-N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



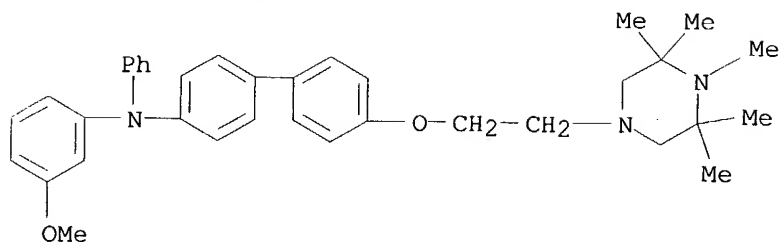
RN 676449-00-6 HCAPLUS

CN [1,1'-Biphenyl]-4-amine, 4'-[[3-(diethylamino)propyl]thio]-N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



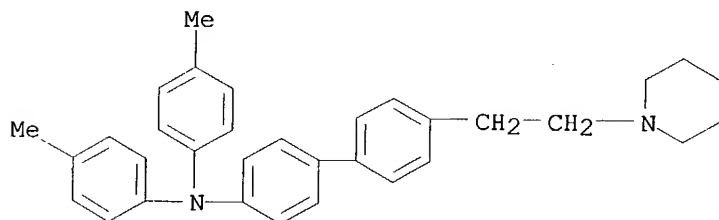
RN 676449-01-7 HCAPLUS

CN [1,1'-Biphenyl]-4-amine, N-(3-methoxyphenyl)-4'-[2-(3,3,4,5,5-pentamethyl-1-piperazinyl)ethoxy]-N-phenyl- (9CI) (CA INDEX NAME)



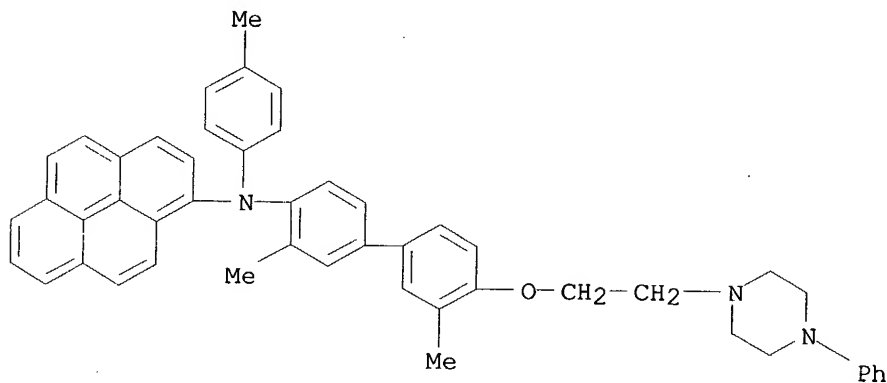
RN 676449-02-8 HCAPLUS

CN [1,1'-Biphenyl]-4-amine, N,N-bis(4-methylphenyl)-4'-[2-(1-piperidinylethoxy)]- (9CI) (CA INDEX NAME)



RN 676449-03-9 HCAPLUS

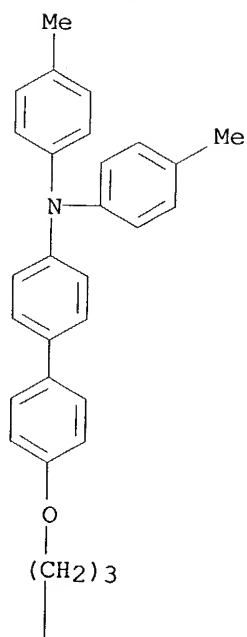
CN 1-Pyrenamine, N-[3,3'-dimethyl-4'-[2-(4-phenyl-1-piperazinylethoxy)]-1,1'-biphenyl]-4-yl)-N-(4-methylphenyl)- (9CI) (CA INDEX NAME)



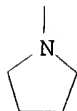
RN 676551-91-0 HCAPLUS

CN [1,1'-Biphenyl]-4-amine, N,N-bis(4-methylphenyl)-4'-[3-(1-pyrrolidinyl)propoxy]- (9CI) (CA INDEX NAME)

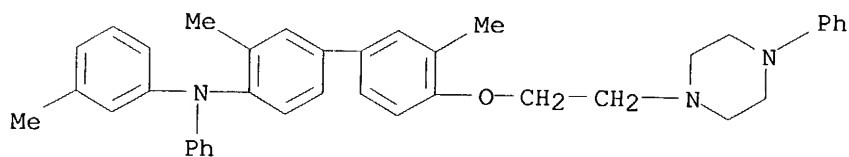
PAGE 1-A



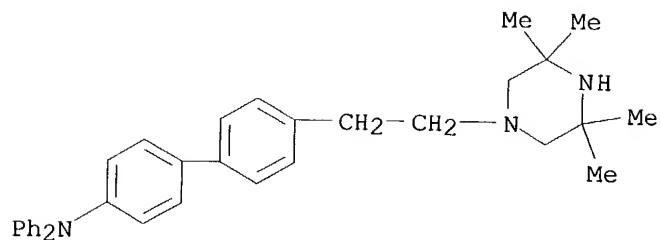
PAGE 2-A



RN 676551-92-1 HCAPLUS  
 CN [1,1'-Biphenyl]-4-amine, 3,3'-dimethyl-N-(3-methylphenyl)-N-phenyl-4'-[2-(4-phenyl-1-piperazinyl)ethoxy]- (9CI) (CA INDEX NAME)

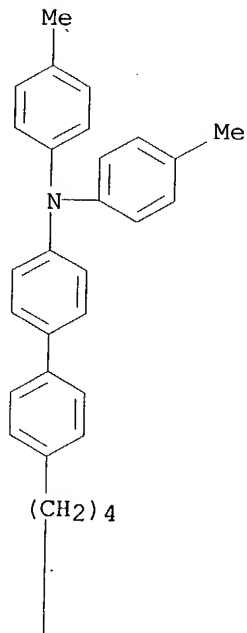


RN 676551-93-2 HCAPLUS  
 CN [1,1'-Biphenyl]-4-amine, N,N-diphenyl-4'-[2-(3,3,5,5-tetramethyl-1-piperazinyl)ethyl]- (9CI) (CA INDEX NAME)

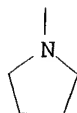


RN 676551-94-3 HCAPLUS  
 CN [1,1'-Biphenyl]-4-amine, N,N-bis(4-methylphenyl)-4'-[4-(1-pyrrolidinyl)butyl]- (9CI) (CA INDEX NAME)

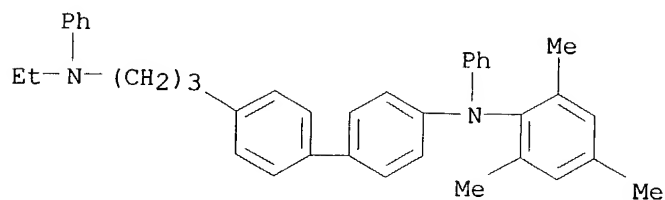
PAGE 1-A



PAGE 2-A



RN 676551-95-4 HCAPLUS  
 CN [1,1'-Biphenyl]-4-propanamine, N-ethyl-N-phenyl-4'-[phenyl(2,4,6-trimethylphenyl)amino]- (9CI) (CA INDEX NAME)



L22 ANSWER 4 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2004:261079 HCAPLUS  
 DN 140:311889  
 TI Specific outermost surface layer coating solution for  
 electrophotographic photoconductor and electrophotographic  
 apparatus

IN Ikegami, Takaaki; Shimada, Tomoyuki; Suzuki, Yasuo; Tamoto, Nozomu; Kami,  
 Hidetoshi

PA Ricoh Company, Japan

SO Eur. Pat. Appl., 57 pp.

CODEN: EPXXDW

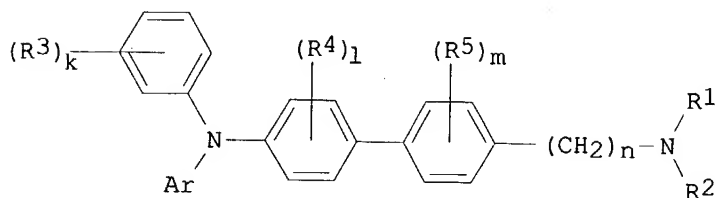
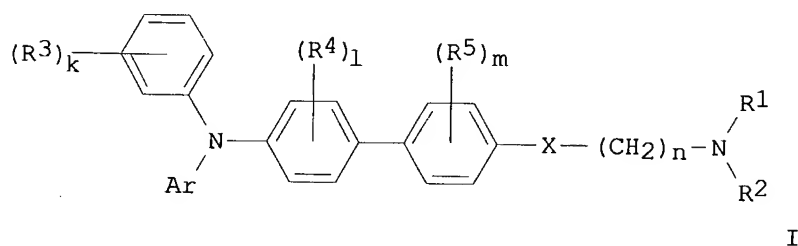
DT Patent

LA English

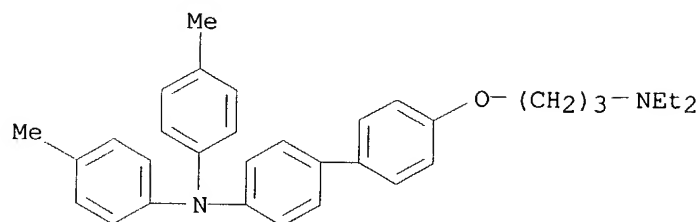
FAN.CNT 1

*applicant*

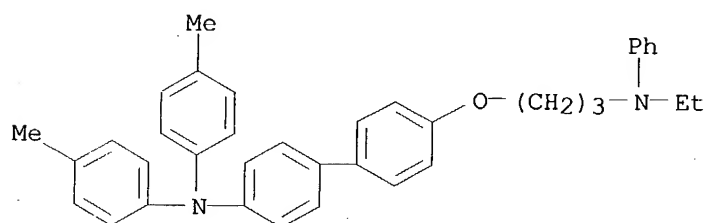
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1403722	A1	20040331	EP 2003-21369	20030922
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	JP 2004102199	A2	20040402	JP 2002-276629	20020924
	US 2004126687	A1	20040701	US 2003-667410	20030923
PRAI	JP 2002-209997	A	20020718		
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OS	MARPAT 140:311889				
GI					



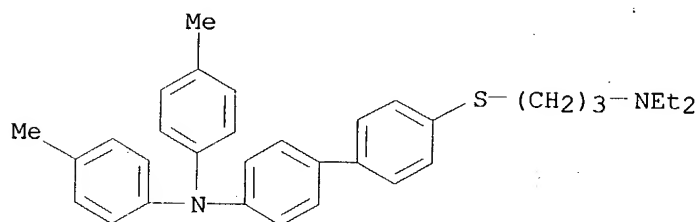
- AB The present invention relates to an **electrophotog.** photoconductor having at least a photosensitive layer on a conductive support, wherein the **electrophotog.** photoconductor comprising, in the outermost layer thereof: a filler, an organic compound having an acid value of 10-400 mgKOH/g, and at least one of compds. represented by general formulas I and II (R1,2 = alkyl groups or aromatic hydrocarbon rings, and may be identical or different, and may also be bonded together to form a substituted or unsubstituted heterocycle containing a nitrogen atom; R3-5 = alkyl or alkoxy groups, or halogen atoms; Ar = aromatic hydrocarbon ring or aromatic heterocycle.; n = 2-4; k, l, m are resp. integers in the range 0 to 3; X = oxygen atom, or a sulfur atom).
- IC ICM G03G005-147  
ICS G03G005-06
- CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38
- ST outermost surface layer **coating** soln **electrophotog** photoconductor app
- IT Polymers, properties  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(carboxy-containing; specific outermost surface layer **coating** solution for **electrophotog.** photoconductor containing)
- IT **Electrophotographic** apparatus  
**Electrophotographic** photoconductors (photoreceptors)  
(specific outermost surface layer **coating** solution for **electrophotog.** photoconductor)
- IT Acrylic polymers, properties  
Polyesters, properties  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(specific outermost surface layer **coating** solution for **electrophotog.** photoconductor containing)
- IT 7631-86-9, Silica, uses 13463-67-7, Titanium oxide, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(filler; specific outermost surface layer **coating** solution for **electrophotog.** photoconductor containing)
- IT 27175-46-8, Acrylic acid-hydroxyethyl methacrylate copolymer 85884-66-8, Butyl acrylate-maleic acid-styrene copolymer  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(specific outermost surface layer **coating** solution for **electrophotog.** photoconductor containing)
- IT 676448-98-9 676448-99-0 676449-00-6  
676449-01-7 676449-02-8 676449-03-9  
RL: TEM (Technical or engineered material use); USES (Uses)  
(specific outermost surface layer **coating** solution for **electrophotog.** photoconductor containing)
- IT 676448-98-9 676448-99-0 676449-00-6  
676449-01-7 676449-02-8 676449-03-9  
RL: TEM (Technical or engineered material use); USES (Uses)  
(specific outermost surface layer **coating** solution for **electrophotog.** photoconductor containing)
- RN 676448-98-9 HCAPLUS
- CN [1,1'-Biphenyl]-4-amine, 4'-[3-(diethylamino)propoxy]-N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



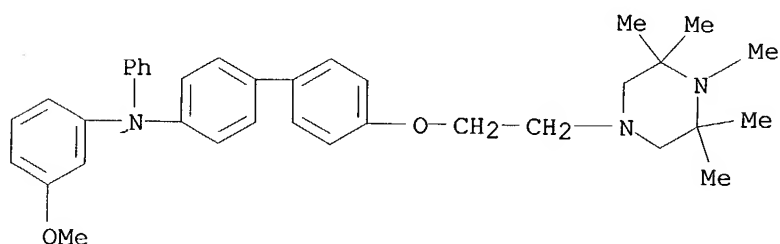
RN 676448-99-0 HCAPLUS  
CN [1,1'-Biphenyl]-4-amine, 4'-[3-(ethylphenylamino)propoxy]-N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



RN 676449-00-6 HCAPLUS  
CN [1,1'-Biphenyl]-4-amine, 4'-[[3-(diethylamino)propyl]thio]-N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

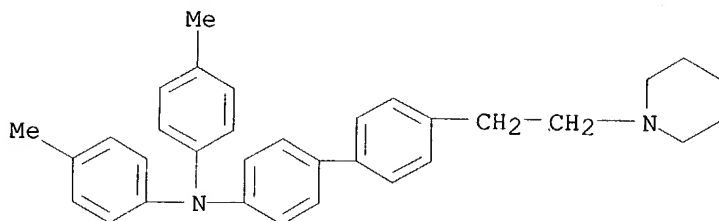


RN 676449-01-7 HCAPLUS  
CN [1,1'-Biphenyl]-4-amine, N-(3-methoxyphenyl)-4'-[2-(3,3,4,5,5-pentamethyl-1-piperazinyl)ethoxy]-N-phenyl- (9CI) (CA INDEX NAME)

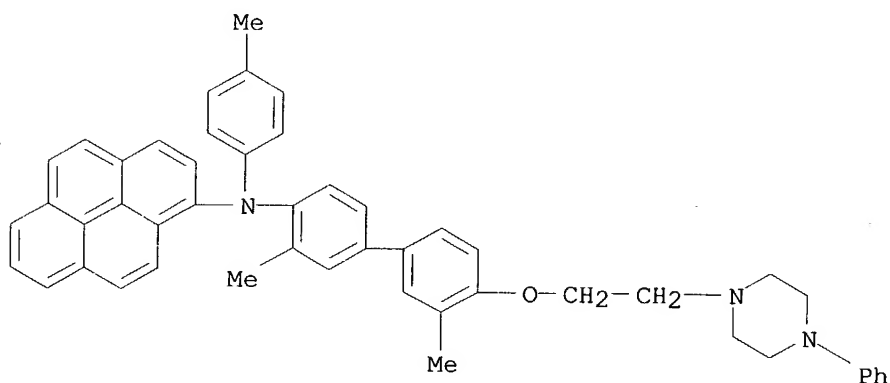


RN 676449-02-8 HCAPLUS  
CN [1,1'-Biphenyl]-4-amine, N,N-bis(4-methylphenyl)-4'-[2-(1-

piperidinyl)ethyl]- (9CI) (CA INDEX NAME)



RN 676449-03-9 HCAPLUS  
 CN 1-Pyrenamine, N-[3,3'-dimethyl-4'-[2-(4-phenyl-1-piperazinyl)ethoxy][1,1'-biphenyl]-4-yl]-N-(4-methylphenyl)- (9CI) (CA INDEX NAME)



RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 5 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2000:440271 HCAPLUS  
 DN 133:65946  
 TI Laminated **electrophotographic** photoreceptor containing  
 oxotitanium phthalocyanine and hydrazone derivative and its manufacturing  
 method  
 IN Murakami, Yoshinobu; Onobori, Tsumugi; Aragae, Ryuichi  
 PA Matsushita Electric Industrial Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 15 pp.  
 CODEN: JKXXAF

DT Patent  
 LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000181106	A2	20000630	JP 1998-351074	19981210
PRAI	JP 1998-351074		19981210		
OS	MARPAT 133:65946				

AB In the photoreceptor comprising an elec. conducting support having thereon  
 an vapor-deposited oxotitanium phthalocyanine charge-generating layer and  
 a charge-transporting layer containing a hydrazone derivative Ar12N(p-C6H4)(p-  
 C6H4)CH:NNAr2Ar3 (I; Ar1 = Ph, tolyl; Ar2 = Ph; Ar3 = Me, Ph; Ar2 and Ar3



may form a ring), the oxotitanium phthalocyanine is (A) treated with mixed vapor containing aromatic organic solvent and water, (B) treated with mixed vapor containing chlorinated aliphatic hydrocarbon and water, (C) soaked in ethylene glycol dialkyl ether and water, or (D) soaked in ethylene glycol alkyl ether acetate and water. In manufacture of the photoreceptor, the vapor deposited oxotitanium phthalocyanine is (a) treated with a mixed. vapor of an organic solvent and water or (b) soaked in a mixed solvent containing ethylene glycol derivative and water to change its crystal form and then a solution containing at least the hydrazone derivative I and a binder resin is coated thereon. The photoreceptor shows high sensitivity to semiconductor laser and improved stability and high sensitivity in repeated use.

IC ICM G03G005-06  
ICS G03G005-06; G03G005-00; G03G005-047

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST **electrophotog** photoreceptor oxotitanium phthalocyanine vapor deposition; solvent treatment oxotitanium phthalocyanine crystal **electrophotog**; hydrazone charge transporting agent **electrophotog**

IT **Electrophotographic** photoconductors (photoreceptors)  
(**electrophotog**. photoreceptor having vapor-deposited oxotitanium phthalocyanine charge-generating layer and hydrazone compound charge-transporting layer)

IT 133878-89-4 133878-91-8 277325-32-3  
RL: DEV (Device component use); USES (Uses)  
(**electrophotog**. photoreceptor having vapor-deposited oxotitanium phthalocyanine charge-generating layer and hydrazone compound charge-transporting layer)

IT 26201-32-1P  
RL: DEV (Device component use); PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation); USES (Uses)  
(**electrophotog**. photoreceptor having vapor-deposited oxotitanium phthalocyanine charge-generating layer and hydrazone compound charge-transporting layer)

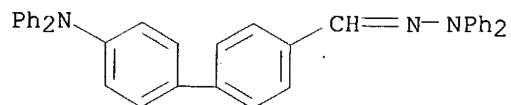
IT 67-66-3, uses 108-88-3, Toluene, uses 108-90-7, Chlorobenzene, uses 110-49-6, Ethylene glycol methyl ether acetate 110-71-4, Ethylene glycol dimethyl ether 111-15-9, Ethylene glycol ethyl ether acetate 629-14-1, Ethylene glycol diethyl ether 1300-21-6, Dichloroethane 7732-18-5, Water, uses  
RL: NUU (Other use, unclassified); USES (Uses)  
(oxotitanium phthalocyanine treated with mixed vapor or solvent)

IT 3468-11-9, 1,3-Diiminoisoindoline 5593-70-4, Tetrabutyl titanate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of oxotitanium phthalocyanine)

IT 133878-89-4 133878-91-8 277325-32-3  
RL: DEV (Device component use); USES (Uses)  
(**electrophotog**. photoreceptor having vapor-deposited oxotitanium phthalocyanine charge-generating layer and hydrazone compound charge-transporting layer)

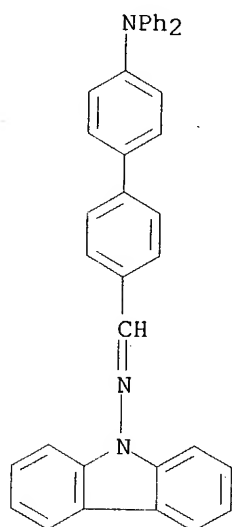
RN 133878-89-4 HCAPLUS

CN [1,1'-Biphenyl]-4-carboxaldehyde, 4'-(diphenylamino)-, diphenylhydrazone (9CI) (CA INDEX NAME)



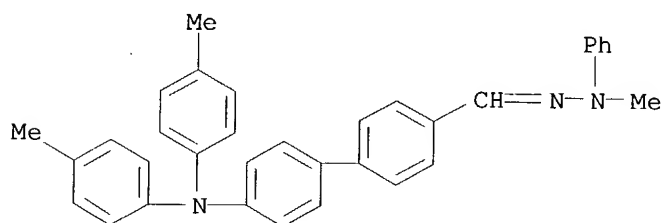
RN 133878-91-8 HCAPLUS

CN 9H-Carbazol-9-amine, N-[[4'-(diphenylamino)[1,1'-biphenyl]-4-yl]methylene]-  
(9CI) (CA INDEX NAME)



RN 277325-32-3 HCAPLUS

CN [1,1'-Biphenyl]-4-carboxaldehyde, 4'-[bis(4-methylphenyl)amino]-,  
methylphenylhydrazone (9CI) (CA INDEX NAME)



L22 ANSWER 6 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1994:641765 HCAPLUS

DN 121:241765

TI **Electrophotographic** photoreceptors with improved  
photosensitivity and durability

IN Nakamori, Hideo; Tanaka, Masafumi; Fukami, Toshuki; Katsukawa, Masahito

PA Mita Industrial Co Ltd, Japan

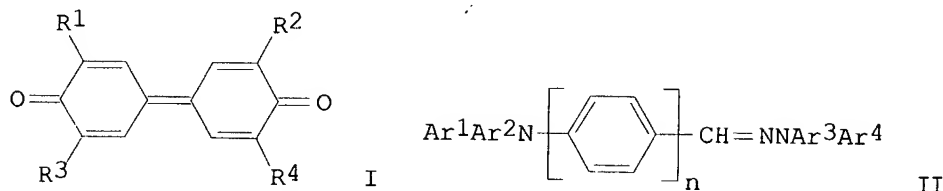
SO Jpn. Kokai Tokkyo Koho, 17 pp.

CODEN: JKXXAF

DT Patent

LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06130696	A2	19940513	JP 1992-271238	19921009
	JP 3121147	B2	20001225		
PRAI	JP 1992-271238		19921009		
GI					



AB The photoreceptors comprise a conductive substrate with a **coating** of a photosensitive layer containing a diphenylquinone compound I [R1-4 = H, (substituted) alkyl, alkoxy, aryl, 2 of R1-4 are same group] as an electron-transporting agent and a hydrazone compound II [R5 = H, (substituted) alkyl, (substituted) alkoxy; Ar1-4 = H, (substituted) alkyl, alkoxy, aralkyl, aryl; n = 1, 2] as a pos. hole-transporting agent. The photoreceptors show high photosensitivity, good durability and low residual potential. Thus, an Al substrate was coated with a composition containing

x-type metal-free phthalocyanine, I (R1 = tert-Bu, R2 = R4 = CHMeEt, R3 = Ph), and II (Ar1=Ar2=Et, Ar3=Ar4=Ph) to give a monolayer photoreceptor.

IC ICM G03G005-06

ICS G03G005-06

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST **electrophotog** photoreceptor electron transporting agent;  
diphenylquinone deriv **electrophotog** photoreceptor; hydrazone  
compd **electrophotog** photoreceptor; pos hole transporting agent  
photoreceptor

IT **Electrophotographic** photoconductors and photoreceptors  
(containing diphenylquinone compound as electron-transporting agent and  
hydrazone compound as pos. hole-transporting agent)

IT 68189-23-1 71135-02-9 93754-54-2 **133878-89-4** 151718-08-0

**152297-43-3 156543-87-2** 158326-15-9 158326-16-0

RL: DEV (Device component use); NUU (Other use, unclassified); TEM  
(Technical or engineered material use); USES (Uses)

(pos. hole-transporting agent, **electrophotog.** photoreceptor  
using)

IT 155306-04-0P 155306-05-1P 157488-03-4P

RL: DEV (Device component use); NUU (Other use, unclassified); SPN  
(Synthetic preparation); PREP (Preparation); USES (Uses)

(preparation of, electron-transporting agent, **electrophotog.**  
photoreceptor using)

IT 2078-54-8, 2,6-Diisopropylphenol 2416-98-0, 2-tert-Butyl-6-phenylphenol  
5510-99-6, 2,6-Di(sec-butylphenol) 152660-60-1, 2-

( $\alpha,\alpha,\gamma,\gamma$ -Tetramethylbutyl)-6-phenylphenol

RL: RCT (Reactant); RACT (Reactant or reagent)

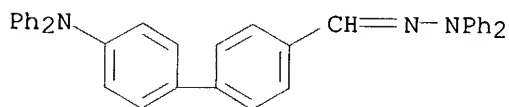
(reaction of, diphenylquinone compound from)

IT **133878-89-4 152297-43-3 156543-87-2**

RL: DEV (Device component use); NUU (Other use, unclassified); TEM  
(Technical or engineered material use); USES (Uses)  
(pos. hole-transporting agent, **electrophotog.** photoreceptor  
using)

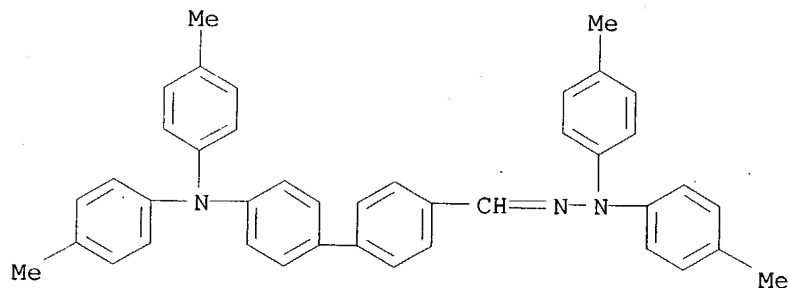
RN 133878-89-4 HCAPLUS

CN [1,1'-Biphenyl]-4-carboxaldehyde, 4'-(diphenylamino)-, diphenylhydrazone  
(9CI) (CA INDEX NAME)



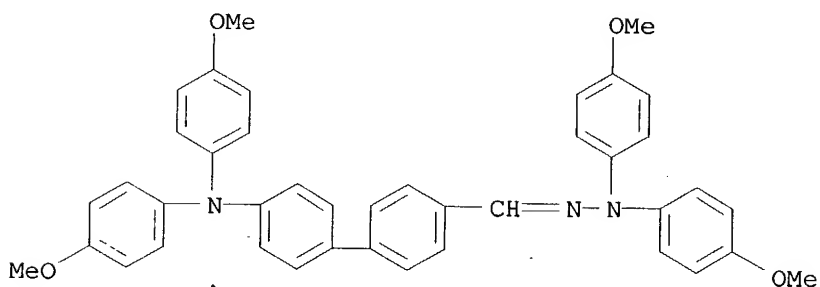
RN 152297-43-3 HCAPLUS

CN [1,1'-Biphenyl]-4-carboxaldehyde, 4'-[bis(4-methylphenyl)amino]-,  
bis(4-methylphenyl)hydrazone (9CI) (CA INDEX NAME)



RN 156543-87-2 HCAPLUS

CN [1,1'-Biphenyl]-4-carboxaldehyde, 4'-[bis(4-methoxyphenyl)amino]-,  
bis(4-methoxyphenyl)hydrazone (9CI) (CA INDEX NAME)



L22 ANSWER 7 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1994:545330 HCAPLUS

DN 121:145330

TI **Electrophotographic** photoreceptors with improved  
photosensitivity and cyclicability

IN Fukami, Toshiki; Tanaka, Masafumi; Katsukawa, Masahito; Nakamori, Hideo

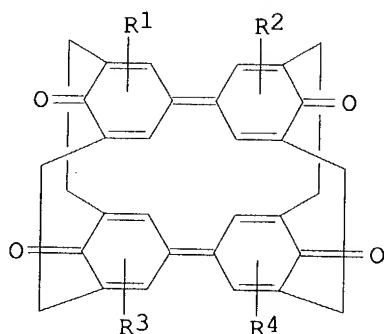
PA Mita Industrial Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 19 pp.

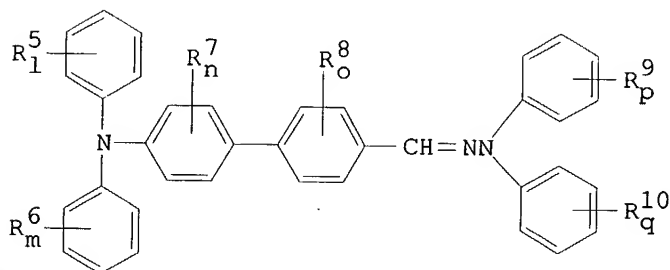
CODEN: JKXXAF

DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06075399	A2	19940318	JP 1992-229059	19920828
PRAI	JP 1992-229059		19920828		
GI					



I



II

- AB The photoreceptors comprise a conductive substrate with a **coating** of a photosensitive layer containing a diphenoquinonophane compound I [R1-4 = H, alkyl, alkoxy, (un)substituted aryl, benzyl] as an electron-transporting agent and, as a pos. hole-transporting agent, a hydrazone compound II [R5-10 = alkyl, alkoxy; l, m, p, q = 0-5; n, o = 0-4]. The photoreceptors show good photosensitivity, cyclicability, and lightfastness. Thus, an Al sheet was coated with a composition containing metal-free phthalocyanine, I (R1-4 = H), and II (R5-10 = H) to give a monolayer photoreceptor.
- IC ICM G03G005-06  
ICS G03G005-06
- CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST **electrophotog** photoreceptor electron transporting agent; hole transporting agent **electrophotog** photoreceptor; diphenoquinonophane compd **electrophotog** photoreceptor; hydrazone compd **electrophotog** photoreceptor; triphenylamine deriv **electrophotog** photoreceptor
- IT **Electrophotographic** photoconductors and photoreceptors (diphenoquinonophane compds. as electron-transporting agents and hydrazone compds. as hole-transporting agents for)
- IT 133878-89-4 152297-43-3 156543-87-2

RL: USES (Uses)

(**electrophotog.** photoreceptors containing diphenoquinonophane compds. as electron-transporting agent and, as hole-transporting agent)

IT 136613-03-1 155107-25-8 156242-22-7

RL: USES (Uses)

(**electrophotog.** photoreceptors containing hydrazone compds. as hole-transporting agent and, as electron-transporting agent)

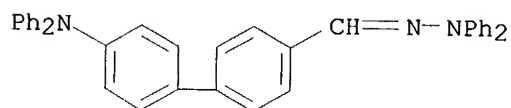
IT 133878-89-4 152297-43-3 156543-87-2

RL: USES (Uses)

(**electrophotog.** photoreceptors containing diphenoquinonophane compds. as electron-transporting agent and, as hole-transporting agent)

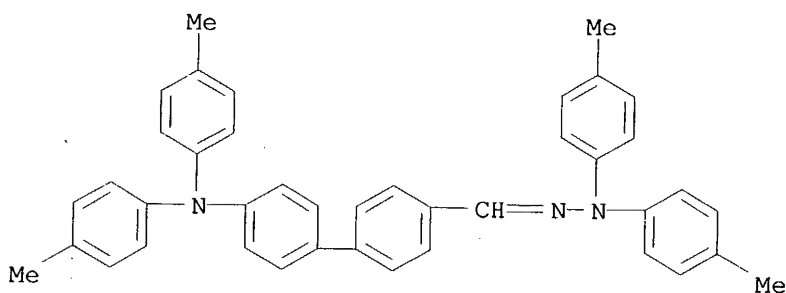
RN 133878-89-4 HCAPLUS

CN [1,1'-Biphenyl]-4-carboxaldehyde, 4'-(diphenylamino)-, diphenylhydrazone (9CI) (CA INDEX NAME)



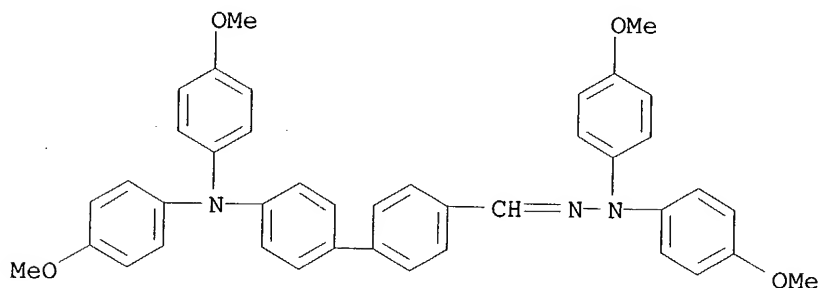
RN 152297-43-3 HCAPLUS

CN [1,1'-Biphenyl]-4-carboxaldehyde, 4'-[bis(4-methylphenyl)amino]-, bis(4-methylphenyl)hydrazone (9CI) (CA INDEX NAME)



RN 156543-87-2 HCAPLUS

CN [1,1'-Biphenyl]-4-carboxaldehyde, 4'-[bis(4-methoxyphenyl)amino]-, bis(4-methoxyphenyl)hydrazone (9CI) (CA INDEX NAME)

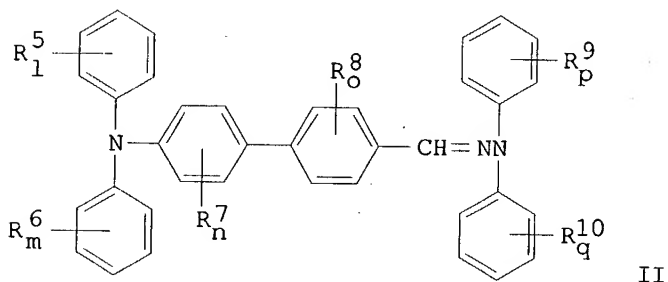
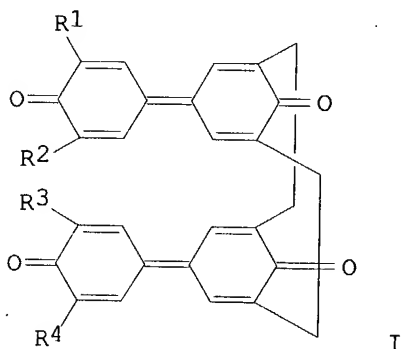


L22 ANSWER 8 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 1994:495991 HCAPLUS

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

DN 121:95991  
 TI **Electrophotographic** photoreceptors containing diphenoquinophene compound and triphenyl amine derivative  
 IN Fukami, Toshiki; Tanaka, Masafumi; Katsukawa, Masahito; Nakamori, Hideo  
 PA Mita Industrial Co Ltd, Japan  
 SO Jpn. Kokai Tokkyo Koho, 17 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06059478	A2	19940304	JP 1992-210206	19920806
PRAI	JP 1992-210206		19920806		
GI					



AB The photoreceptors comprise a conductive substrate with a **coating** of a photosensitive layer containing a diphenoquinophene compound I [R1-4 = H, alkyl, alkoxy, (substituted) aryl, benzyl] as an electron-transporting material and II [R5-10 = alkyl, alkoxy; l, m, p, q = 0-5; n, o = 0-4] as a pos. hole-transporting material. The photoreceptors show good photosensitivity, durability, and lightfastness. Thus, an Al sheet was coated with a composition containing metal-free phthalocyanine, I (R1-4 = H), and II (R5-10 = H) to give a single layer-type photoreceptor.

IC ICM G03G005-06  
 ICS G03G005-06

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST **electrophotog** photoreceptor electron transporting agent; pos  
hole transporting agent photoreceptor; diphenylquinophene compd  
**electrophotog** photoreceptor; triphenylamine deriv  
**electrophotog** photoreceptor

IT **Electrophotographic** photoconductors and photoreceptors  
(containing diphenylquinophene compound and triphenylamine derivative)

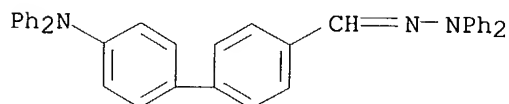
IT 136613-02-0 155107-24-7 156242-20-5  
RL: USES (Uses)  
(electron-transporting agent, **electrophotog.** photoreceptor  
using)

IT 133878-89-4 152297-43-3 156543-87-2  
RL: USES (Uses)  
(pos. hole-transporting agent, **electrophotog.** photoreceptor  
using)

IT 133878-89-4 152297-43-3 156543-87-2  
RL: USES (Uses)  
(pos. hole-transporting agent, **electrophotog.** photoreceptor  
using)

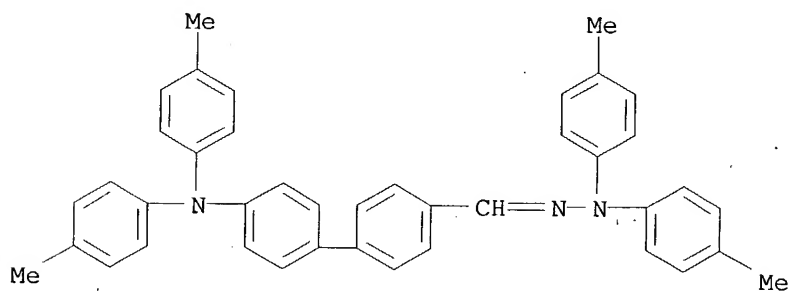
RN 133878-89-4 HCAPLUS

CN [1,1'-Biphenyl]-4-carboxaldehyde, 4'-(diphenylamino)-, diphenylhydrazone  
(9CI) (CA INDEX NAME)



RN 152297-43-3 HCAPLUS

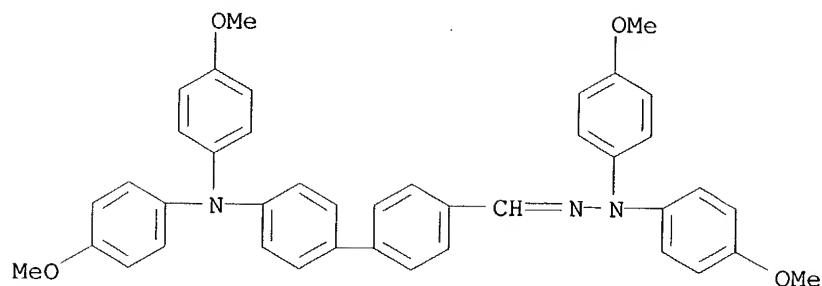
CN [1,1'-Biphenyl]-4-carboxaldehyde, 4'-[bis(4-methylphenyl)amino]-,  
bis(4-methylphenyl)hydrazone (9CI) (CA INDEX NAME)



RN 156543-87-2 HCAPLUS

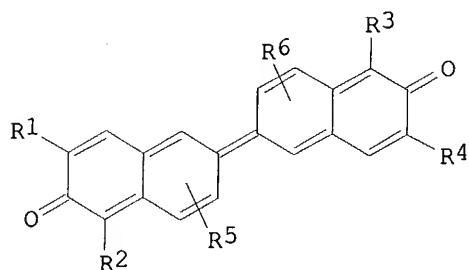
CN [1,1'-Biphenyl]-4-carboxaldehyde, 4'-[bis(4-methoxyphenyl)amino]-,  
bis(4-methoxyphenyl)hydrazone (9CI) (CA INDEX NAME)



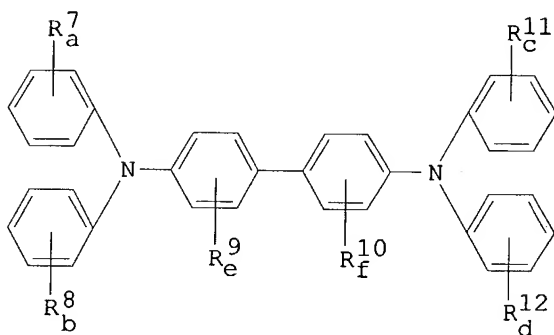


L22 ANSWER 9 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1994:334916 HCAPLUS  
 DN 120:334916  
 TI **Electrophotographic** photoreceptor using dinaphthoquinone  
 derivative electron-transporting agent  
 IN Fukami, Toshiki; Katsukawa, Masahito  
 PA Mita Industrial Co Ltd, Japan  
 SO Jpn. Kokai Tokkyo Koho, 18 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	JP 05341545	A2	19931224	JP 1992-147691	19920608
PRAI	JP 1992-147691		19920608		
OS	MARPAT 120:334916				
GI					



I



II

AB The photoreceptor comprises a conductive substrate coated with a photosensitive layer containing a dinaphthoquinone derivative I (R1-6 = H, alkyl,

aryl, alkoxy, aralkyl) as an electron-transporting agent. The photosensitive layer may contain a diamine compound II (R7-12 = alkyl, alkoxy, halo, aryl, nitro, cyano, alkylamino; e, f = 0-3; a, b, c, d = 0-2) as a hole-transporting agent. The photoreceptor shows high photoresponse and good cyclic ability.

IC ICM G03G005-06

ICS G03G005-05

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST **electrophotog** photoreceptor electron transporting naphthoquinone; amine hole transport **electrophotog** photoreceptor

IT **Electrophotographic** photoconductors and photoreceptors (containing dinaphthoquinone electron-transporting agent)

IT 155171-89-4 155171-90-7 155171-91-8

RL: USES (Uses)

(**electrophotog.** photoreceptor electron-transporting agent)

IT 83890-46-4 84746-59-8 89114-90-9 95709-85-6 95905-90-1  
96492-42-1 103079-11-4 105465-13-2 116942-09-7 122738-25-4  
124591-08-8 127697-06-7 132761-17-2 **133878-89-4**  
147845-86-1 151028-59-0 155171-92-9

RL: USES (Uses)

(**electrophotog.** photoreceptor hole-transporting agent)

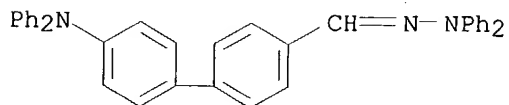
IT **133878-89-4**

RL: USES (Uses)

(**electrophotog.** photoreceptor hole-transporting agent)

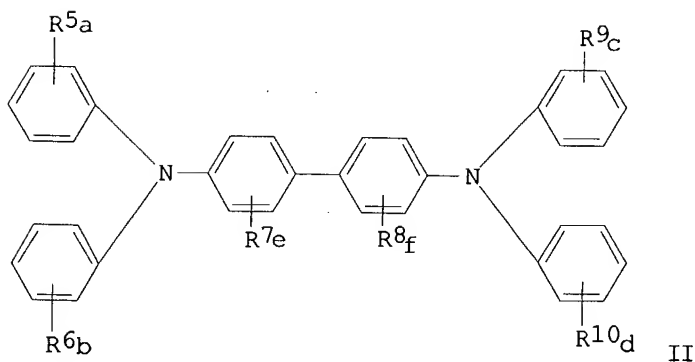
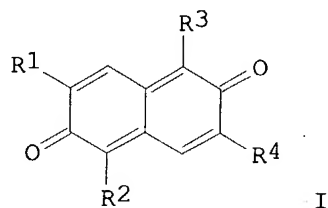
RN 133878-89-4 HCAPLUS

CN [1,1'-Biphenyl]-4-carboxaldehyde, 4'-(diphenylamino)-, diphenylhydrazone (9CI) (CA INDEX NAME)



L22 ANSWER 10 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1994:334915 HCAPLUS  
 DN 120:334915  
 TI **Electrophotographic** photoreceptor using naphthoquinone  
 derivative electron-transporting agent  
 IN Fukami, Toshuki; Tanaka, Masafumi  
 PA Mita Industrial Co Ltd, Japan  
 SO Jpn. Kokai Tokkyo Koho, 18 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05341544	A2	19931224	JP 1992-147690	19920608
PRAI	JP 1992-147690		19920608		
OS	MARPAT 120:334915				
GI					



AB The photoreceptor comprises a conductive substrate coated with a photosensitive layer containing a naphthoquinone derivative I (R1-4 = H, alkyl, aryl, alkoxy, aralkyl) as an electron-transporting agent. The photosensitive layer may contain a diamine compound II (R6-10 = alkyl, alkoxy, halo, aryl, nitro, cyano, alkylamino; e, f = 0-3; a, b, c, d =

0-2) as a hole-transporting agent. The photoreceptor shows high photoresponse and good cyclic stability.

IC ICM G03G005-06  
ICS G03G005-05

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST **electrophotog** photoreceptor electron transporting naphthoquinone; diamine hole transport **electrophotog** photoreceptor

IT **Electrophotographic** photoconductors and photoreceptors (containing naphthoquinone electron-transporting agent)

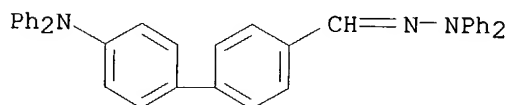
IT 155171-89-4 155171-90-7 155171-91-8  
RL: USES (Uses)  
(**electrophotog.** photoreceptor electron-transporting agent)

IT 83890-46-4 84746-59-8 89114-90-9 95709-85-6 95905-90-1  
96492-42-1 103079-11-4 105465-13-2 116942-09-7 122738-25-4  
124591-08-8 127697-06-7 132761-17-2 **133878-89-4**  
147845-86-1 151028-59-0 155171-92-9  
RL: USES (Uses)  
(**electrophotog.** photoreceptor hole-transporting agent)

IT **133878-89-4**  
RL: USES (Uses)  
(**electrophotog.** photoreceptor hole-transporting agent)

RN 133878-89-4 HCAPLUS

CN [1,1'-Biphenyl]-4-carboxaldehyde, 4'-(diphenylamino)-, diphenylhydrazone (9CI) (CA INDEX NAME)



L22 ANSWER 11 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1994:90776 HCAPLUS

DN 120:90776

TI **Electrophotographic** photoreceptors with improved photosensitivity and durability

IN Fukami, Toshuki; Tanaka, Masafumi; Hanatani, Yasuyuki

PA Mita Industrial Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

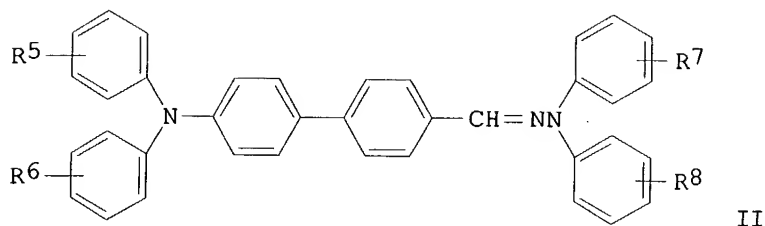
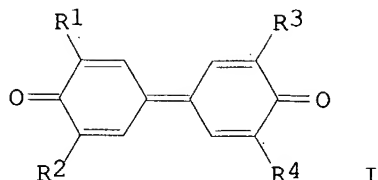
CODEN: JKXXAF

DT Patent

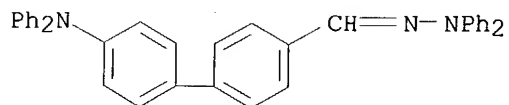
LA Japanese

FAN.CNT 1

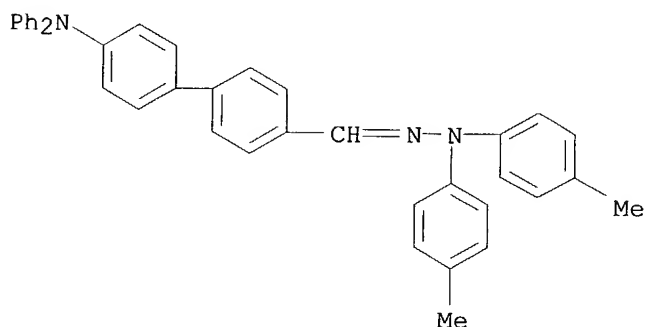
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05150486	A2	19930618	JP 1991-316604	19911129
PRAI	JP 1991-316604		19911129		
GI					



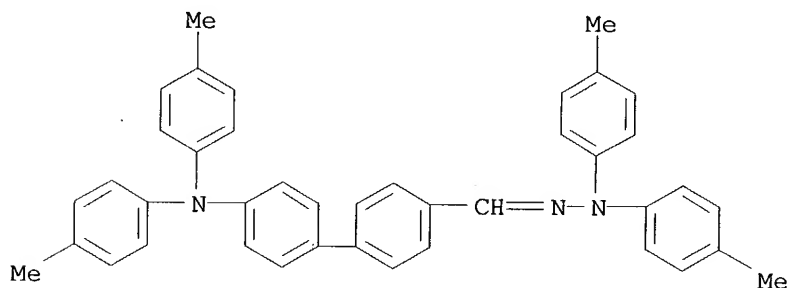
- AB The photoreceptors comprise a conductive substrate with a **coating** of an organic photosensitive layer containing a charge-generating agent, an electron-transporting agent I (R1-4 = H, alkyl, aryl, alkoxy, benzyl), and a pos. hole-transporting agent II (R5-8 = H, (substituted) lower alkyl or alkoxy). The photoreceptors show good photosensitivity, durability, lightfastness, and ozone resistance. Thus, an Al substrate was coated with a composition containing metal-free phthalocyanine, I (R1, R3 = Ph; R2 = R4 = tert-Bu), and II (R5-8 = H) to give a photoreceptor.
- IC ICM G03G005-06  
ICS G03G005-06
- CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST **electrophotog** diphenylquinone electron transporting agent; pos hole transporting agent photoreceptor; hydrazone triphenylamine **electrophotog** photoreceptor
- IT **Electrophotographic** photoconductors and photoreceptors (containing diphenylquinone electron-transporting agents and pos. hole-transporting agents)
- IT 2416-99-1 126657-30-5 151028-57-8  
RL: USES (Uses)  
(electron-transporting agent, **electrophotog.** photoreceptor using)
- IT **133878-89-4 152297-42-2 152297-43-3**  
RL: USES (Uses)  
(pos. hole-transporting agent, **electrophotog.** photoreceptor using)
- IT **133878-89-4 152297-42-2 152297-43-3**  
RL: USES (Uses)  
(pos. hole-transporting agent, **electrophotog.** photoreceptor using)
- RN 133878-89-4 HCAPLUS
- CN [1,1'-Biphenyl]-4-carboxaldehyde, 4'-(diphenylamino)-, diphenylhydrazone (9CI) (CA INDEX NAME)



RN 152297-42-2 HCAPLUS  
 CN [1,1'-Biphenyl]-4-carboxaldehyde, 4'-(diphenylamino)-,  
 bis(4-methylphenyl)hydrazone (9CI) (CA INDEX NAME)



RN 152297-43-3 HCAPLUS  
 CN [1,1'-Biphenyl]-4-carboxaldehyde, 4'-[bis(4-methylphenyl)amino]-,  
 bis(4-methylphenyl)hydrazone (9CI) (CA INDEX NAME)

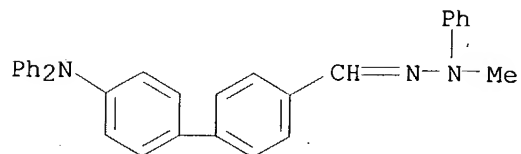


L22 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1991:237619 HCAPLUS  
 DN 114:237619  
 TI **Electrophotographic** photoconductors  
 IN Kobayashi, Toru; Hagiwara, Toshimitsu  
 PA Takasago Perfumery Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 9 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02272571	A2	19901107	JP 1989-94497	19890414
	JP 2528710	B2	19960828		

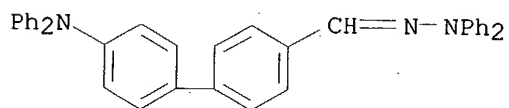
PRAI JP 1989-94497 19890414  
 OS MARPAT 114:237619  
 GI For diagram(s), see printed CA Issue.  
 AB Photoconductors contain charge carrier-transporting agents I or II (R1-2 = lower alkyl, benzyl, Ph, or may jointly form an N-containing heterocyclic group). These photoconductors have high sensitivity and stable chargeability, and are highly flexible. Thus, an Al-coated polyester film was coated with Ti phthalocyanine by vacuum deposition, and with a polycarbonate-III charge-transporting layer to obtain a photoconductor. This photoconductor was charged to -1138 V, and showed residual voltage 48 V and sensitivity (exposure required for half decay of voltage) 1.0 lx-s.  
 IC ICM G03G005-06  
 ICS C09B026-02  
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 ST **electrophotog** photoconductor charge transporting agent  
 IT Hydrazones  
 RL: USES (Uses)  
 (as **electrophotog.** charge-transporting agents)  
 IT **Electrophotographic** photoconductors  
 (charge-transporting agents for, hydrazones as)  
 IT 122011-48-7 122011-51-2 128859-87-0 **133878-88-3**  
**133878-89-4 133878-90-7 133878-91-8**  
 133897-13-9  
 RL: USES (Uses)  
 (charge-transporting agent, **electrophotog.** photoconductors containing)  
 IT 2920-38-9, 4-Cyanobiphenyl  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (iodination of, electrog. charge-transporting agents from)  
 IT 133878-93-0P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and hydrazone formation of, electrog. charge-transporting agents from)  
 IT 57774-34-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and reaction of, with diphenylamine, electrog. charge-transporting agents from)  
 IT **133878-92-9P**  
 RL: PREP (Preparation)  
 (preparation and reduction and hydrolysis of, electrog. charge-transporting agents from)  
 IT 530-50-7, 1,1-Diphenylhydrazine 614-31-3, 1-Benzyl-1-phenylhydrazine  
 618-40-6 18992-86-4, 1-Aminocarbazole 133878-94-1  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, hydrazone as **electrophotog.** charge-transporting agent from)  
 IT 122-39-4, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with iodobiphenyl derivative, electrog. charge-transporting agents from)  
 IT **133878-88-3 133878-89-4 133878-90-7**  
**133878-91-8**  
 RL: USES (Uses)  
 (charge-transporting agent, **electrophotog.** photoconductors containing)  
 RN 133878-88-3 HCAPLUS  
 CN [1,1'-Biphenyl]-4-carboxaldehyde, 4'-(diphenylamino)-,

methylphenylhydrazone (9CI) (CA INDEX NAME)



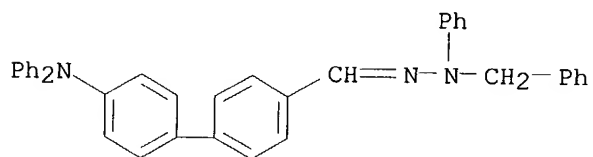
RN 133878-89-4 HCAPLUS

CN [1,1'-Biphenyl]-4-carboxaldehyde, 4'-(diphenylamino)-, diphenylhydrazone (9CI) (CA INDEX NAME)



RN 133878-90-7 HCAPLUS

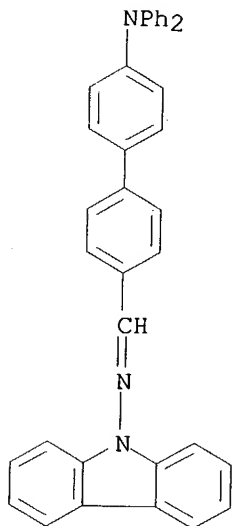
CN [1,1'-Biphenyl]-4-carboxaldehyde, 4'-(diphenylamino)-, phenyl(phenylmethyl)hydrazone (9CI) (CA INDEX NAME)



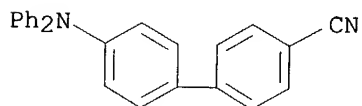
RN 133878-91-8 HCAPLUS

CN 9H-Carbazol-9-amine, N-[[4'-(diphenylamino)[1,1'-biphenyl]-4-yl]methylene]- (9CI) (CA INDEX NAME)



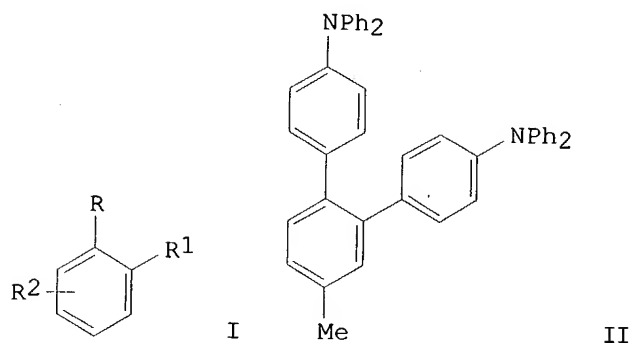


IT 133878-92-9P  
 RL: PREP (Preparation)  
 (preparation and reduction and hydrolysis of, electrog. charge-transporting agents from)  
 RN 133878-92-9 HCAPLUS  
 CN [1,1'-Biphenyl]-4-carbonitrile, 4'-(diphenylamino)- (9CI) (CA INDEX NAME)



L22 ANSWER 13 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1991:14906 HCAPLUS  
 DN 114:14906  
 TI **Electrophotographic** photoreceptors using terphenyl derivative as charge-transporting agent  
 IN Kanamaru, Tetsuro; Kikuchi, Norihiro; Suzuki, Koichi; Matsumoto, Masakazu  
 PA Canon K. K., Japan  
 SO Jpn. Kokai Tokkyo Koho, 12 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02134642	A2	19900523	JP 1988-286862	19881115
PRAI	JP 1988-286862		19881115		
GI					



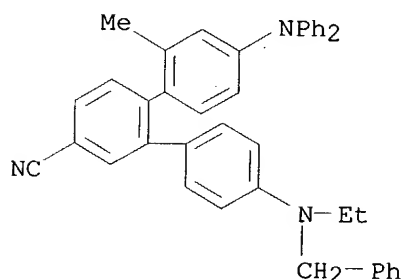
- AB The title photoreceptors comprise a conductive support with a **coating** of a photosensitive layer containing a o-terphenyl derivative I [R, R1 = (substituted) aryl, heterocycle, ≥1 of them have NR3R4 [R3, R4 = H, (substituted) alkyl, aryl, aralkyl, heterocycle, R3 and R4 may form a 5- to 7-membered ring]; R2 = H, alkyl, alkoxy, halo, CN, NO2, acyl, CF3]. A photoreceptor using a bisazo pigment and II showed good photosensitivity and durability.
- IC ICM G03G005-06  
ICS C07D209-86; C07D213-74; C07D223-22; C09K009-02; G03G005-06
- CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 25
- ST **electrophotog** photoreceptor charge transporting agent; terphenyl deriv **electrophotog** photoreceptor
- IT **Electrophotographic** photoconductors  
(using terphenyl derivative as charge-transporting agent)
- IT 14039-00-0, 4-(4-Dimethylaminophenyl)-2,6-diphenylthiapyrylium perchlorate  
107047-66-5 111919-13-2 124329-68-6 129582-84-9  
RL: USES (Uses)  
(charge-generating agent, **electrophotog**. photoreceptor using terphenyl derivative as charge-transporting agent and)
- IT 130951-80-3 130951-81-4 130951-82-5 130951-83-6 130951-84-7  
130951-85-8 130951-86-9 130951-87-0 130951-88-1 130951-89-2  
**130951-90-5** 130951-91-6 130951-92-7 130951-93-8  
130951-94-9 130951-95-0 130951-96-1 130972-56-4  
RL: USES (Uses)  
(charge-transporting agent, **electrophotog**. photoreceptor using)
- IT 84-15-1, o-Terphenyl  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(nitration and reduction of)
- IT 130951-97-2P, [1,1':2',1''-Terphenyl]-4,4''-diamine  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and reaction of)
- IT 130951-79-0P  
RL: PREP (Preparation)  
(preparation of, charge-transporting agent, **electrophotog**. photoreceptor using)
- IT 74-88-4, Methyl iodide, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of)
- IT **130951-90-5**

RL: USES (Uses)

(charge-transporting agent, **electrophotog.** photoreceptor using)

RN 130951-90-5 HCAPLUS

CN [1,1':2',1''-Terphenyl]-4'-carbonitrile, 4-(diphenylamino)-4''-[ethyl(phenylmethyl)amino]-2-methyl- (9CI) (CA INDEX NAME)



L22 ANSWER 14 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1990:66714 HCAPLUS

DN 112:66714

TI Improved **electrophotographic** photoreceptor containing organic sulfide

IN Matsumoto, Masakazu; Ishikawa, Shozo; Ando, Wataru; Kikuchi, Toshihiro; Yamazaki, Itaru

PA Canon K. K., Japan

SO Fr. Demande, 109 pp.

CODEN: FRXXBL

DT Patent

LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2623638	A1	19890526	FR 1988-15260	19881123
	FR 2623638	B1	19940408		
	JP 01136161	A2	19890529	JP 1987-296447	19871124
	JP 05049227	B4	19930723		
	JP 01136160	A2	19890529	JP 1987-296446	19871124
	JP 01136159	A2	19890529	JP 1987-296444	19871124
	JP 01136158	A2	19890529	JP 1987-296443	19871124
	JP 01140162	A2	19890601	JP 1987-299045	19871126
	JP 05002983	B4	19930113		
	US 4931371	A	19900605	US 1988-274503	19881121
PRAI	JP 1987-296443		19871124		
	JP 1987-296444		19871124		
	JP 1987-296446		19871124		
	JP 1987-296447		19871124		
	JP 1987-299045		19871126		

AB An **electrophotog.** photoconductor is described with a support and a photosensitive layer containing a compound having an aminoaryl group of the formula R1R2NAr1 [R1, R2 = alkyl, aryl, aralkyl, or a group for forming a 5- or 6-membered ring; Ar1 = arylene], and a group of the formula SR3 [R3 = alkyl, aralkyl], SSR4 [R4 = alkyl, aryl, aralkyl], SR5 [R5 = aryl] and SR6 [R6 = R4], or a cyclic sulfide containing  $\geq 2$  S atoms; or a thioether of the formula R1R2NAr2(CH:CH)nCH:C(X)Y [Ar2 = arylene, a divalent heterocyclic group; n = 0 or 1; X = SR7 or SOR8; Y = SR9, alkyl,

aralkyl, aryl (R7-R9 = R4); X and Y together may form a thioether group].  
The photoconductor has improved elec. properties. Thus,  
(MeS-p-C6H4)2NC6H4-p-SMe was used in the charge transport layer of a  
multilayer **electrophotog.** photoconductor.

IC ICM G03G005-06

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)

Section cross-reference(s): 25

ST **electrophotog** photoconductor sulfide charge transport; aminoaryl  
sulfide charge transport; thioether charge transport

IT Disulfides

Sulfides, uses and miscellaneous

RL: USES (Uses)

(as charge-transport agent in photoconductors)

IT **Electrophotographic** photoconductors

**Electrophotographic** plates

(containing aminoaryl sulfide or thioether)

IT Sulfides, uses and miscellaneous

RL: USES (Uses)

(aminoaryl, as charge-transport agent in photoconductors)

IT	114315-13-8	124905-40-4	124905-41-5	124905-42-6	124905-43-7
	124905-44-8	124905-45-9	124905-46-0	124905-47-1	124905-48-2
	124905-49-3	124905-50-6	124905-51-7	124905-52-8	124905-53-9
	124905-54-0	124905-55-1	124905-56-2	124905-57-3	124905-58-4
	124905-59-5	124905-60-8	124905-61-9	124905-62-0	124905-63-1
	124905-64-2	124905-65-3	124905-66-4	124905-67-5	124905-68-6
	124905-69-7	124905-70-0	124905-71-1	124905-72-2	124905-73-3
	124905-74-4	124905-75-5	124905-76-6	124905-77-7	124905-78-8
	124905-79-9	124905-80-2	124905-81-3	124905-82-4	124905-83-5
	124905-84-6	124905-85-7	124905-86-8	124905-87-9	124905-88-0
	124905-89-1	124905-90-4	124905-91-5	124905-92-6	124905-93-7
	124905-94-8	124905-95-9	124905-96-0	124905-97-1	124905-98-2
	124905-99-3	124906-00-9	124906-01-0	124906-02-1	124906-03-2
	124906-04-3	124906-05-4	124906-06-5	124906-07-6	124906-08-7
	124906-09-8	124906-10-1	124906-11-2	124906-12-3	124906-13-4
	124906-14-5	124906-15-6	<b>124906-16-7</b>	124906-17-8	
	124906-18-9	124906-19-0	124906-20-3	124906-21-4	124906-22-5
	124906-23-6	124906-24-7	124906-25-8	124906-26-9	124906-27-0
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	124906-33-8	124926-43-8	124926-44-9	124926-45-0	124926-46-1
	124926-47-2	124926-48-3	124926-49-4	124926-50-7	124926-51-8

RL: USES (Uses)

(**electrophotog.** photoconductor containing)

IT 124906-34-9P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation and use of, in **electrophotog.** photoconductor)

IT 121-45-9 1748-15-8, 1,3-Dithiane-2-thione 4181-05-9,  
p-Diphenylaminobenzaldehyde

RL: RCT (Reactant); RACT (Reactant or reagent)

(reactions of, organic sulfide from)

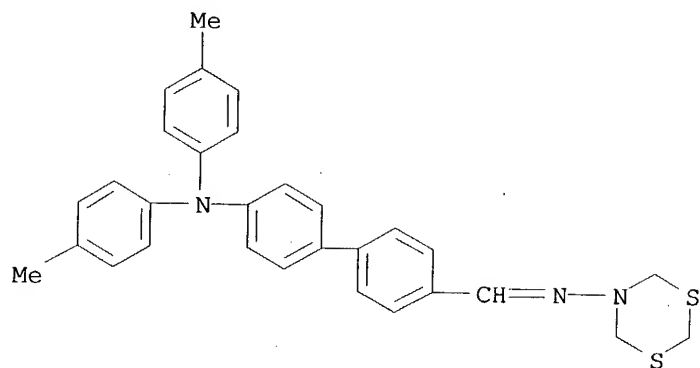
IT **124906-16-7**

RL: USES (Uses)

(**electrophotog.** photoconductor containing)

RN 124906-16-7 HCAPLUS

CN 4H-1,3,5-Dithiazin-5(6H)-amine, N-[[4'-[bis(4-methylphenyl)amino][1,1'-  
biphenyl]-4-yl]methylene]- (9CI) (CA INDEX NAME)



=>